REMARKS

Applicant appreciates the Examiner's attention to the above referenced application. Reconsideration of the application is respectfully requested. Claims 1 – 28 were rejected. Claims 1, 5, 6, 8, 12, 13, 19, 20, 22, 26 and 27 remain in the application.

Claims Objections

Claims 3, 10, 17 and 24 were objected to because of the following informalities: "is" recited in last line of claims 3, 10, 17 and 24 should be removed. Applicant has removed "is" and/or cancelled the claim.

Claims 2 - 3, 7 ,9 - 10, 14, 16 - 21, 23 - 24 and 28 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2, 9, 16 and 23; the term "channel smoothness property" in last line of each claim was considered a vague term which renders the claim indefinite. Applicant has cancelled claims 2, 9 16 and 23 rendering this rejection moot.

Regarding claims 12 and 19: claim 12 line 2 and claim 15 line 3 recites the limitation "said wireless station". There was considered insufficient antecedent basis for this limitation in the claim. Applicant has amended claims 12 and 19 to remedy the antecedent basis issues.

Regarding claims 3, 10, 17 and 24: the value "Nmod recited in the claims was considered undefined and lacks antecedent basis. Applicant respectfully submits that "mod", short for modulo, is a mathematical term known and defined by those of ordinary skill in the art. The

ordinary mathematical meaning is the default use herein as no definition to the contrary is provided.

Regarding claims 7, 14, 21 and 28: the claims recite the term "developing fast methods ....". This term was considered to make the claims unclear and indefinite. Applicant has cancelled claims 7, 14, 21 and 28 rendering this rejection moot.

Regarding claims 16-21, the claims recite multiple "further comprising" which renders the claims indefinite. Applicant has deleted the second "further comprising" in the respective claims to traverse this rejection.

Claims 8-21 were rejected under 35 U.S.C. 101 because the claimed invention was considered to be directed to non-statutory subject matter. Applicant has amended claim 8 to include "by a wireless station operable in a wireless network". Applicant submits this traversed the rejection of claims 8, 12 and 13. Further, Applicant has amended claim 15 to "A computer readable medium encoded with computer executable instructions, which when accessed, cause a machine to perform operations comprising", and submits this traversed the rejection of claims 15, 19 and 20.

35 U.S.C § 102 Rejection of the Claims

Claims 1 - 2, 5 - 9, 12 - 16, 19 - 23 and 26 - 28 were rejected under 35 U.S.C. 102(e) as being anticipated by US Pub. 2005/0195905 to John Kowalski (hereafter referenced as Kowalski). Applicant respectfully traverses this rejection, which should be withdrawn for at least the reasons set forth herein.

Applicant respectfully submits that the present invention uses pre-defined and determined ABL patterns and Kowalski teaches updating the codebook using channel statistics. This is set forth in the claims by claiming:

a wireless station operable in a wireless network using an adaptive bitloading (ABL) technique, wherein said wireless station <u>uses a predetermined limited set of modulation patterns.</u>

To further articulate and distinguish from the cited art, Applicant has amended the claims further to include <u>"wherein said N_{BL} patterns are stored a-priori and said number of allowed patterns is limited to some set of N_{BL} patterns which is less than $N_{mod}^{N_{sc}}$ patterns with N_{sc} being the number of subcarriers in an OFDM symbol.</u>

This is a vital distinction as the operation, efficiency and effectiveness are very distinct using a predetermined limited set of modulation patterns as opposed to adaptive bit loading with source coding via vector quantization of Kowalski. Again, Applicant has amended the present independent claims to further specificy this distinction.

CONCLUSION

Applicant respectfully requests reconsideration in view of the remarks and amendments set forth above. If the Examiner has any questions, the Examiner is encouraged to contact the undersigned at 202-607-4607. Please charge any shortage of fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-0221 and please credit any excess fees to such account.

Respectfully submitted,

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